

# Copiers Buyer's Guide

*By the purchasing experts at BuyerZone*

A staple of the office for decades, the copier has come a long way since Xerox introduced the first fully automated plain-paper photocopier in 1959. Today's models have more in common with computers than they do with that first Xerox 914: modern business copiers combine copying, laser printing, faxing, scanning, and more into one networked machine.



The copier industry generates \$24 billion in revenue by selling over 1.5 million new copiers each year. This huge market drives manufacturers to constantly improve their offerings and leads to a highly competitive market among the vendors who install and service business copiers.

This **BuyerZone Copiers Buyer's Guide** will help you learn everything you need to know to buy a business copier:

- Analog vs. digital .....2**
- Choosing an office copier .....2**
- Evaluating copiers .....3**
- Copier features.....4**
- Copier memory.....6**
- Color copier specifics.....7**
- Copier prices and how to buy .....9**
- Choosing a copier dealer .....10**
- Copier service agreements .....11**

To start, here's a quick look at some common price ranges for office copiers.

Description	Speed	Monthly Volume	Estimated cost
Low end business copiers	20 ppm	10,000 p	\$1,200 - \$4,000
Workgroup or mid-range copiers	21–35 ppm	15,000 – 75,000 p	\$3,000 - \$10,000
High end business copiers	36–56 ppm	90,000 – 300,000 p	\$20,000 - \$40,000
Ultra-high performance copiers	100+ ppm	600,000 p and up	\$100,000 or more

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## Analog vs. digital

One of the main questions to ask when comparing multiple copier providers used to be whether you should buy a digital copier or analog machine. No longer: the answer now is a resounding “digital.” It makes little sense to buy analog these days – most manufacturers have stopped introducing new analog models, and there is little price difference between analog and digital copiers with similar features.

The advantages of digital machines are many:

- They combine the functions of copiers, scanners, network printers, and fax machines
- Fewer moving parts means less mechanical breakdowns
- Less noise makes for a quieter office
- They are better at reproducing fine lines and photographs.

Some people like the simplicity of analog copiers – they can be simpler to operate, with just one button to press to make a copy. However with even minimal training, your staff will quickly get used to operating a digital machine.

## Choosing an office copier

Before you begin researching digital copier vendors, ask yourself these three questions to get a good grasp of what your needs are.

### 1. What do I need my copier to do?

Modern digital copiers are sometimes referred to as “multifunctional products” because they can do more than just copy. Almost all are also capable of printing, faxing, and scanning. The modules to support these functions are most often sold as add-ons which means you can decide later if you want to add functionality.

Having a multifunctional product connected to your internal network allows your staff to print, copy, or send faxes from their computers. Because the machine is still a copier, users can also make collated - even stapled - sets of documents without having to leave their seats. Space limitations may also require a multifunctional copier solution.

Some buyers have a perception that adding more functions to a copier can reduce its reliability, but that is not the case any more. However, relying on one device for printing, faxing, and copying does mean that if it breaks down, you may lose all three functions at once.

You also need to decide whether you need a copier that supports color. While color machines do not command the exorbitant premiums they used to, you will still pay 20% to 30% above the cost of a black and white copier.

For most businesses that need some color printing and/or copying, a black and white/color hybrid is the best choice. By switching between b&w and color modes, a hybrid office copier can save you money in expensive color copier consumables. Dedicated graphic color machines are much more

expensive, with the additional cost largely for print-quality accuracy in color reproduction and faster processors, neither of which is essential in the typical office.

## 2. What is my volume?

Once you decide on the features you need, the next step is to narrow your choices based on the number of copies you make in a month.

If you already own or lease a copier, you can determine your actual copier usage by looking at the counter, usually found under the platen glass. If you do not have a copier, examine your copy shop receipts to get a sense for your volume. If you are going to use the copier as a network printer, increase the figure by 30% to 50%. You can also use your monthly paper consumption to help determine your current copy and print volume.

Once you have a rough volume figure, increase it by at least 15%. This will help you account for future growth, as well as compensate for the somewhat inflated monthly copy volumes set by manufacturers for their models. Overworking an office copier is the quickest route to frustrating downtime and expensive service calls – better to pay for slightly more capacity than you need than risk damaging an expensive and essential piece of office equipment.

If you are expecting to make fewer than 700 copies a month, you probably do not need the expense of a “business” copier. You would be better off purchasing a small office copier from an office superstore – unless you want the advanced features or service guarantees that come with business copiers.

## 3. How fast do I need it?

Copier speed is measured in copies per minute (cpm), pages per minute (ppm), or outputs per minute (opm). Whichever term is used, it refers to the number of letter-sized pages the machine can produce in one minute when running at full speed. Most offices will get by comfortably with machines from Segments 2 - 4, in the 20 to 50 ppm range.

Of course, more complex forms of copying - making two-sided copies, copying on to larger sheets, and sorting – will be slower. If you will be frequently doing these types of copying, make sure you anticipate and plan for the slower speed. Also, if you expect to make many one-time single copies, ask about the first-copy speed, or the number of seconds it takes for one single copy to be made. It may be longer than you are willing to wait.

Segment	Approximate speed
1	<15 PPM
2	20 PPM
3	30-50 PPM
4	50-70 PPM
5	70-90 PPM
6	> 90 PPM

## Evaluating copiers

Once you have decided what your monthly volume, speed, color, and network connectivity requirements are, you can start looking at specific copy machines. Knowing these will allow you to

base your decision on the most important factors, not on the bells and whistles offered on so many copiers that rarely serve any useful purpose.

Don't assume that buying a copier with tons of features means that you will be paying for unnecessary options. So many features are built into digital machines these days that the "extra" features may have little to no impact on price. Just make sure you stick to your requirements.

## Test drive it

When deciding between two or three different copiers, ask the dealer to bring them in for a demo, including hooking them up to your network if you plan to use your machine that way. If an in-house demo is not possible, make sure you visit the dealer to see how the copiers work.

Whether you demo the copier inside or outside your office, test it with your most common tasks. For example, if you know you frequently feed 110-pound cover stock or labels through the bypass, run some through the copier and examine the output. If you want to copy your brochures onto special paper, do so and compare the output to the quality you are used to seeing.

Evaluating color copying? Take samples of previously outsourced color jobs along with the stock you would like to copy onto most often and see how the copiers handle a typical job.

## Copier features

Capabilities that used to be expensive or simply not available are now standard on today's digital multifunction devices. Remember that you can upgrade many of these features later – if you choose the right copier.

Some machines can be upgraded with a “plug and play” type of upgrade, while others require more extensive hardware fixes. If you are considering adding printing or faxing modules later, ask about the specifics of the upgrade process.

## Sorting and finishing

Digital copiers don't use sorting bins – copies are placed in a single tray at right angles or offset from each other, allowing you to easily identify where one set ends and another begins. This allows you to make unlimited sets at one time, rather than only as many sets as you have sorter bins.

You may want a finisher if you are frequently going to copy many sets of multi-page documents. The most familiar type of finisher is the automatic stapler, which can be a huge time-saver. More advanced versions include three-hole punches, saddle stitch binding, folding, and more. Finishers are optional on many machines, and usually carry an additional cost.

## Paper supply

Each paper tray, cassette, pedestal, or paper feed unit is a separate paper source. The number of sources is important if you want to be able to copy onto different paper stocks, such as letterhead, legal size stock, or transparencies, without reloading the machine. Paper sources typically hold a minimum of 50 to 100 sheets, and the largest-capacity units can hold up to 3,000 sheets.

Typically, office copiers include at least one fixed-size and a couple of adjustable-size paper trays. Unfortunately, heavy paper stock often jams if you load it into a standard paper tray. To get around this problem, most copiers include a bypass tray, a special tray that provides a straight paper path for heavy paper and labels.

## Feeders

An automatic document feeder (ADF) allows you to quickly copy multi-page documents. Drop a stack of originals (up to 50 pages) into the feeder, press start, and the ADF automatically pulls each page through. A recirculating automatic document feeder (RADF) does the same thing for double-sided originals.

## Printing

Add a printer module and network card to a digital copier and it can double as an office laser printer, working at the same speed it makes copies – and per-page costs can be as little as 20% of laser printer costs.

Most copiers run standard networking protocols, but make sure the model you choose is compatible with your network.

## Scanning

Digital copiers scan every document into memory before printing a copy, so it's natural that they can be used for creating electronic versions of your paper documents. A document feeder can be used as a sheetfed scanner, rapidly scanning multiple pages, while books and other thicker objects that can't go through the feeder can be scanned directly on the glass.

Add-ons to scanning functionality include OCR (optical character recognition) software that turns your papers into editable electronic documents, and the ability to scan directly to e-mail or a computer desktop.

## Faxing

With the addition of a fax module, you can send and receive faxes through the copier. You can easily send multi-page faxes using the document feeder, or you can use the copier glass to fax single pages or parts of books or catalogs. Incoming faxes are printed as they're received, sometimes into a separate output tray. With a network interface, users can even send faxes from their computers.

## Image editing

Digital copiers can edit your documents while duplication is happening. This can include automatic page numbering, adding watermarks such as "confidential" or "copy," or adding date stamps. They can rotate scanned images to match the orientation of the available paper supply, saving on wasted time and paper from unanticipated errors.

They can also combine images in creative ways, such as copying a two-sided original – say, a check – onto one page, or reducing and combining originals to put 2, 4, or 8 pages onto one.

### Stackless duplexing

Digital copiers with enough memory can support stackless duplexing by storing each side of the original page in memory, then printing both sides of the copy. This means the number of two-sided copies you make is no longer limited by the capacity of a duplex tray. You will get your duplexed copies much faster, too.

### Automatic sizing

Digital copiers usually offer an automatic sizing function on their machines. This enables the copier to note the dimensions of your original document and adjust itself using preset reduction/enlargement settings, even if your copying paper is a different size than your original.

### Automatic shut-off

Almost all copiers now have an automatic shut-off option – it saves energy and decreases wear on a copier by turning the machine off if it has not been used for a set period of time.

### Security

Many digital copiers allow you to require users to enter a code before they make copies. This provides a level of security – preventing unauthorized usage – as well as allowing you to analyze current usage patterns by department. Some machines can also hold faxes or network documents in memory until the correct code is entered, then print them. This prevents confidential documents from being left in the output tray for any passerby to view.

### Wired and wireless connection options

Some digital copiers now come with a wireless LAN interface – either the 802.11b wireless LAN standard, or a Bluetooth wireless board. Some also have separate parallel and universal serial bus (USB) interfaces that allow you to connect laptops or storage devices.

### Environment friendliness

Copiers can be huge consumers of electricity – and all that paper has to come from somewhere. But despite this, copiers are becoming more environmentally friendly all the time: energy efficiency is one of the prime concerns of manufacturers and consumers alike.

Newer digital copiers usually have “energy save” modes that cause the machine to power down if it hasn't been used for a certain period of time. Also look for Energy Star rated copiers that save money while protecting the environment through intelligent power management.

### Copier memory

Memory (RAM, the same memory used in computers) is essential for supporting digital copier features such as scan once/print many, automatic page numbering, faxing, and printing. Additional

memory can be added to boost productivity and enable more memory-intensive features. Insufficient memory will result in slower output and an inability to print or copy new documents.

In some cases, a fairly small cache of memory is dedicated for each function - copying, printing, and faxing. In other configurations, a single larger cache is shared between functions. Find out how memory is allocated before you decide on how much to buy.

Make sure your chosen machine accepts generic memory like SIMMs. Most do, but some holdouts still use proprietary memory systems – avoid them. If your copier accepts industry-standard memory, you will be able to easily purchase more memory if the need arises.

### Copier memory

By holding a scanned image of each original page in memory, digital copiers are able to produce as many sets of documents as required without feeding the originals through again. The number of pages that can be duplicated with this “scan once/print many” feature depends on the size of the originals and the amount of detail. With less memory, the copier may be unable to complete larger copy jobs in one run.

Often, you can not take advantage of advanced image editing features without purchasing extra memory. Copiers come with anywhere from 4 MB to 256 MB and higher of RAM. If you intend to use any image editing features, or frequently produce complex documents with over 20 pages, make sure you get at least 16 MB of digital copier memory.

### Fax memory

1 MB of fax memory holds about 60 - 80 pages, which should be enough for most offices. Unless you plan to hold many international faxes in memory to send during off-peak hours, you probably won't need to upgrade your fax memory.

### Printer memory

Printer memory determines the overall efficiency and speed of the printer. As with the copier, more detailed documents will require more memory to process. In addition, memory-hungry printer languages such as PostScript can require memory for faster printing.

The standard 2 MB to 8 MB of memory many printers are equipped with is typically not enough for effective printing. Additional memory or hard drives are almost always available as an option.

### Color copier specifics

All color copiers are digital and work much like a computer scanner connected to a laser printer. The copier scans the original then transfers the information via laser to a charged image drum. Color toner adheres to the charged areas of the drum before being transferred to paper. The final step, as with a laser printer, is to heat the toner on the page and fuse a permanent image.

High-end models apply all four colors in a single application. Low-end machines take four passes of the same image, rolling the paper around the drum four times to apply each color. While low-end technology is less expensive, it also makes for slower copying speeds.

## Color copier editing features

Standard features on digital color copiers include border erasing, image centering, color adjustment, and color balancing. Some models offer a whole menu of additional editing functions, such as colorizing, which lets you create color documents from black and white originals.

Although these advanced editing techniques can be impressive, they tend to be difficult and time-consuming to master. And, if your copier is set up as a network printer, you can do much more complex image manipulations using standard image editing software at your computer, then simply print the results. Basic editing functions are enough for most users.

If you do choose to invest in an editor, or a model that includes one, and set out to compare features across models, you may find the process frustrating. Most of these editing features are named differently from model to model, even though their functions may be the same. Ask a sales representative to demonstrate exactly how to use the editing features you want.

## Consumables

You should also factor consumables, which will need to be replaced periodically, into the overall purchase of a color copier. The major consumables color copiers require are paper, toner, developer, and fuser oil.

- **Paper** costs will be a significant part of your overall copying costs. You should select the paper for your color prints carefully, since it will probably be more expensive than the paper you buy for regular copying. Color copier manufacturers typically recommend that you use brighter and heavier paper with a color copier.
- Dealing with **toner** is more complex with a color copier than with a black and white copier, since four complementary toner colors are used: cyan, magenta, yellow, and black. (These are referred to as CMYK, where K stands for black.) Each toner color typically comes in a separate bottle or cartridge, so you can replace colors as they run out.
- Toner needs to be mixed with **developer** to be magnetically attracted to the copier drum and then fused on to paper. Most copiers require a separate developer for each toner color. Developer usually has a yield that is twice that of the toner. TIP: When copies seem to get lighter, it is usually time to change the developer. When you run out of toner, on the other hand, you will see an overall unevenness in color.
- **Fuser oil** is required for the last step in the (laser) copying process and does not need to be replaced often. One bottle will generally last twice as long as a bottle of developer.



## Copier prices and how to buy

Prices for digital copiers have come down remarkably in recent years. However there is a very large variance in pricing, even among similar or identical models. First, we'll present general guidelines; below you'll find detailed prices as reported by other BuyerZone users.

A word of caution: most vendors are honest, but some vendors overcharge simply because they can get away with it, while others price their base machines far below market value – even below cost – to lure you in, then charge considerably more for service contracts and add-on features. Before signing a contract, make sure you understand all current and future costs.

Description	Speed	Monthly Volume	Estimated cost
Low end business copiers	20 ppm	10,000 p	\$1,200 - \$4,000
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Copier prices are affected by a number of factors. One is the add-ons you choose. Color has the most significant impact on price: expect to pay a 20% to 30% premium over a black and white copier with similar speed and volume ratings. Network printing is standard on some models, but may be an option you have to purchase for an additional \$500 to \$2,000. ADFs add \$1,000 to \$2,000 to the price if they are not included.

Of course, you can buy an ink-jet color printer with scanning capabilities that will essentially function as a color copier for as little as \$130. However the speed and reliability of these “all-in-ones” are not adequate for most business use, and the high cost of consumables – specifically ink – will drive your per-copy cost through the roof. If you very rarely need a color copy, you may want to purchase an all-in-one inkjet copier to complement a black and white digital copier.

## Negotiating

Few copiers are sold at list price. In general, you can expect to see discounts between 10% and 20% from the manufacturer suggested retail price. These prices are often flexible: they vary based on the options and accessories you are considering, and if you are going to purchase an extended service contract, the dealer may have more room to give on the price of the copier itself.

You may get even greater discounts depending on the competitive situation or if you are buying an older, refurbished, or discontinued model.

And remember, just like when buying a car: never discuss a trade-in until the end of your negotiation period. A high trade-in offer can easily blind you to an inferior deal.

## Buy or lease?

Most businesses lease their copiers. The primary reason that businesses lease is to avoid the significant capital outlay required to purchase one outright. In addition, because the technology changes quickly, some leases include provisions to trade up to a newer model, allowing you to upgrade without buying anew.

As with most products, however, leasing is more expensive in the long run. Many leases charge on a per-copy basis and may include monthly copying minimums. Be careful – complex language around minimums can disguise higher costs in the future. Other leases allow you to walk away from a machine, increasing your financial flexibility if you can not afford ongoing monthly payments.

## Choosing a copier dealer

When it comes time to choose a dealer, "service" is the most important word you need to remember. A great copier with bad service can cause more headaches than a so-so copier with excellent service. Since you will need to be comfortable with your copier vendor for years and years, it is in your best interest to be particular when evaluating them.

## Ask questions

Get to know the dealers that carry the copier you're interested in well. Ask as many questions as you can:

- How long have you been in business? Who are your major accounts?
- How long have your employees been working for you?
- Do you sell multiple brands? Which is the strongest seller and how long have you been selling it? (If it is not the machine you're interested in, look elsewhere.)
- What is the policy on breakdowns? Is there a time limit for repair responses?
- How many in-house technicians are available for this model in the local area? Where are they? (A cheap service plan won't save you anything if the help is hard to come by. The last thing you want to discover is that there is only one technician in the city for the model a salesperson convinced you to buy.)

## Talk to the techs

Because modern copiers combine electrical, mechanical, digital, and chemical systems to produce your documents, maintaining them requires a unique mix of skills. Before deciding to buy, make sure the dealer has technicians with extensive installation and service experience. Having your IT or MIS department vet the dealer can be a good call to test for experience.

You do not have to take the dealer's word about the technicians' experience. Try to speak with the technicians directly. You can quickly judge how seasoned a technician is by having him or her recount stories of copier breakdowns or how users can prevent them from happening.

## Take a tour

One of the best ways to get to know a vendor is to take a tour of their facility. You will be able to meet staff in different departments, get a sense of their size and professionalism, and take a look at their

repair facilities. This can also help you make sure a potential vendor is large enough to meet your needs – but small enough to value you as a customer.

## Check references

Any dealer worth buying from should be more than willing to give you references. And make sure you follow through with this; as with any product or service that you purchase, neglecting to check references can be a grave mistake. Of course the dealer will put you in touch with their best customers, but you can still learn from the conversations.

The references you call should own the exact model of copier you are considering. Ask them how responsive the dealer has been to service calls and how comfortable they feel about the technicians' competence and level of expertise. If the copier has been problematic, find out how these problems were resolved.

## Superstores

Copiers at the lowest end of the spectrum are available at retail or online stores, but we do not recommend purchasing this way. Preventative maintenance and ongoing service and support are critical to your copier's performance, and retail outlets do not offer appropriate service contracts. To handle breakdowns, manufacturers offer warranties that cover repairs or replacement, but most businesses want the comfort of knowing that an experienced technician is available to address any problems they have.

## Copier service agreements

Because the office copier is so essential to many businesses, the service agreement that stipulates when and how repairs will be done is a very important part of any purchase or lease decision. As with pricing for the copier itself, service agreement pricing can vary significantly from vendor to vendor, so make sure you are able to compare by getting quotes for the same level of service from multiple vendors.

## Copy volume assumptions

Service contract pricing is based on estimated copy volume, but your actual copier usage is likely to fluctuate month to month. Be wary of contracts that stipulate an annual or monthly copy volume that is unrealistically large. While it may be tempting to overestimate your expected copy volume to get a lower per-copy rate, if you do not meet that maximum, you will not be reimbursed for the difference. Similarly, if the volume estimate is too low, dealers often charge a per-copy fee above and beyond that limit, which can end up being quite costly.

If copy volume is something you are still trying to assess, try to get a service plan that charges you only for the copies you make (pay as you go) or one based on your estimated annual, not monthly, number of copies. A fair dealer should agree to those terms.

You can also negotiate a contract with monthly payments that cover copier parts and service but not supplies, or a lower monthly payment and a higher per-copy fee.

## Typical coverage

All plans tend to cover costs of parts and labor for repairing and maintaining your copier. Unfortunately, "parts" often has a different definition from vendor to vendor. Parts that break during use are almost always covered, as are parts that wear out over time. This includes fuser rollers, cleaning blades, and other parts often bundled in preventative maintenance kits. Make sure you get a comprehensive list of what is and is not covered so you can compare plans accurately.

## Emergency repairs

Find out whether these costs are covered in full or priced on an as-needed basis. If you will be paying as you go, you should know what your costs will be beforehand. Be sure to get a written commitment on response time (the typical maximum is four hours) and the hours service is available, particularly if you expect the copier to see a lot of use during evenings and weekends.

Also ask about loaner service. Many vendors will provide you with a replacement copier of equal or greater specifications if yours requires significant repairs.

## Future costs

Get a sense for how service contracts will be priced in the future. Costs should ideally be limited to increases of less than 8 percent a year.

## Consumables

Consumables such as toner are usually excluded from service contracts, unless you opt for an all-inclusive contract that covers all service calls, maintenance, and consumables – everything except paper and staples. All-inclusive contracts can be easier on the accounting, but predictably will cost you more in the long run. Buyers often do not realize that they don't have to buy consumables from the dealer who sold them the machine. Sometimes, in fact, you can save 15% to 20% on supplies by going through an alternate source.

Letting a dealer know you are considering alternate sources for service or supplies can be a good way to dramatically reduce the price of these higher-margin items. Some copier dealers may falsely claim that you must purchase your consumables through them. This is illegal, so stand your ground.